



Contains No CBI

UNION CARBIDE CORPORATION 39 OLD RIDGEBURY ROAD, DANBURY, CT 06817-5001

(A)

October 8, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

8EHQ-92-12163
INIT
88920010400

92 OCT 14 AM 10:54

Document Processing Center (TS-790)
Room L-100
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Attn: Section 8(e) Coordinator (CAP Agreement)

Re: CAP Agreement Identification No. 8ECAP-0110

Dear Sir or Madam:

Union Carbide Corporation ("Union Carbide") herewith submits the following report pursuant to the terms of the TSCA §8(e) Compliance Audit Program and Union Carbide's CAP Agreement dated August 14, 1991 (8ECAP-0110). This report describes a case of an employee becoming unusually sensitive to hexamethyldisilazane (CASRN 999-97-3). This report consists of two letters, described below. The employee's name has been deleted from the attached documents.

- (1) "... and Exposure to Hexamethyldisilazane (HMDS)", UCC letter from H. C. Lewinsohn to J. Holmes, October 18, 1991.
- (2) "... and Exposure to Hexamethyldisilazane (HMDS)", UCC letter from H. C. Lewinsohn to B. Robb, March 18, 1992.

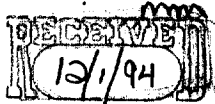
A complete summary of this report is attached.

Previous TSCA Section 8(e) or "FYI" Submission(s) related to this substance are:

(None)

Previous PMN submissions related to this substance are: (None)

hm ds



This information is submitted in light of EPA's current guidance. Union Carbide does not necessarily agree that this information reasonably supports the conclusion that the subject chemical presents a substantial risk of injury to health or the environment.

In the attached report the term "CONFIDENTIAL" may appear. This precautionary statement was for internal use at the time of issuance of the report. Confidentiality is hereby waived for purposes of the needs of the Agency in assessing health and safety information. The Agency is advised, however, that the publication rights to the contained information are the property of Union Carbide.

Yours truly,



William C. Kuryla, Ph.D.
Associate Director
Product Safety
(203/794-5230)

WCK/cr

Attachment (3 copies of cover letter, summary, and report)

SUMMARY

UNION CARBIDE CORPORATION
39, OLD RIDGEBURY ROAD - P2590,
DANBURY, CT 06817-0001

October 18, 1991

Mr. Jerry Holmes,
Health & Safety Administrator,
KTI Chemicals Inc.,
1200 West Jackson Road,
Carrollton, TX 75006.

Dear Mr. Holmes,

Re: and Exposure to Hexamethyldisilazane (HMDS)

I am writing as a follow-up to our telephone conversation this morning when we discussed Mr. apparent skin sensitivity to HMDS.

I spoke with him today and he told me that he has been employed in this work area for approximately 2 1/2 years. He first developed a skin problem about 7 or 8 months ago. At that time he noticed that when pouring HMDS he developed "welts" on his hands and arms. He changed his work practices and protected his arms and hands more effectively by tucking his smock into his gloves, thereby minimizing direct contact. About 2 months ago he began to suffer from redness and swelling of his face with "welts" on his skin. His arms and chest are also affected. He has become even more concerned about his condition because he now also suffers from persistent headaches at work and has recently had some nose bleeds. He says that the HMDS vapors irritate his nose. His complaints improve at the week-end when he is away from work and recur as soon as he comes near HMDS on return to work.

On my advice Mr. was referred to Dr. Mark Koone, Dermatology Department, Dallas Medical Surgical Clinic and was seen by him on March 6, 1992. Dr. Koone has explained to that his skin reaction on contact with HMDS could "predict a potential for a fatal anaphylactic reaction." This is a very frightening statement and in the light of it I see no alternative other than to recommend that the most stringent precautions be taken to avoid Mr. coming into contact with HMDS in any form.

UNION CARBIDE CORPORATION
39, OLD RIDGEBURY ROAD - P2590,
DANBURY, CT 06817-0001

October 18, 1991

Mr. Jerry Holmes,
Health & Safety Administrator,
KTI Chemicals Inc.,
1200 West Jackson Road,
Carrolton, TX 75006.

Dear Mr. Holmes,

Re: and Exposure to Hexamethyldisilazane (HMDS)

I am writing as a follow-up to our telephone conversation this morning when we discussed Mr. apparent skin sensitivity to HMDS.

I spoke with him today and he told me that he has been employed in this work area for approximately 2 ½ years. He first developed a skin problem about 7 or 8 months ago. At that time he noticed that when pouring HMDS he developed "welts" on his hands and arms. He changed his work practices and protected his arms and hands more effectively by tucking his smock into his gloves, thereby minimizing direct contact. About 2 months ago he began to suffer from redness and swelling of his face with "welts" on his skin. His arms and chest are also affected. He has become even more concerned about his condition because he now also suffers from persistent headaches at work and has recently had some nose bleeds. He says that the HMDS vapors irritate his nose. His complaints improve at the week-end when he is away from work and recur as soon as he comes near HMDS on return to work.

He is otherwise a healthy 28-year old employee who is the lead hand and supervisor of the department. The only significant other fact which I elicited is that he is very sensitive to "Bull Nettle" and reacts severely to this common Texas weed.

You informed me that the other chemicals with which he comes in contact are xylenes, Cellosolve® Acetate and mineral spirits. Potential for exposure to these chemicals occurs mainly when he is involved in disconnecting pumps and hoses and during filter changing. The HMDS is blended with these other chemicals in mixing rooms where the work is done under hoods or with "exhaust tubes". Protective clothing, gloves and full-face respirators are worn in this department.

Mr. has been treated for this skin condition by the KTI Contract Physician's office, where he has seen Dr. Cook. The treatment alleviates his complaints but they are exacerbated again as soon as he enters the area where he is exposed to HMDS.

I have not personally examined Mr. or inspected the workplace. Based on my conversation with you and with Mr. and in view of the known irritant properties of HMDS, it is my considered opinion that this employee with an apparent allergic

tendency ("bull nettles") is manifesting an unusual sensitivity to HMDS. The development of sensitization to HMDS is not referenced in the MSDS which you sent to me.

I would advise that Mr. be removed from the work area where direct contact with HMDS and its vapors occurs and that he be permanently restricted from work involving the potential for exposure to this chemical.

I am sending a copy of this letter to Dr. W. C. Kuryla for consideration as a recordable allegation under Section 8(c) of the Toxic Substances Control Act.

Hilton C. Lewinsohn, MB BCh., FFOM., FACOM., FCCP., DIH.

Associate Corporate Medical Director

cc: Dr. B. Ballantyne (Danbury)
W. C. Kuryla (Danbury)
J. M. Cleverdon (Danbury)

HMDS/HCL

10/18/91

UNION CARBIDE CORPORATION,
39, OLD RIDGEBURY ROAD, DANBURY, CONNECTICUT 06817-0001

**UNION CARBIDE CORPORATION
39 OLD RIDGEBURY ROAD (P2590)
DANBURY, CONNECTICUT 06817**

March 18, 1992

TO: Bill Robb (KTI, Carrolton)

FROM: H. C. Lewinsohn, MB BCh

**CC: B. Ballantyne, M.D. (Danbury)
J. J. Behan (Tarrytown)
J. M. Cleverdon (Danbury)
W. C. Kuryla (Danbury)**

SUBJECT: and Exposure to Hexamethyldisilazane (HMDS)

I am writing in follow up to my October 18, 1991 note to Jerry Holmes and my February 28, 1992 note to you, regarding

On my advice Mr. was referred to Dr. Mark Koone, Dermatology Department, Dallas Medical Surgical Clinic and was seen by him on March 6, 1992. Dr. Koone has explained to that his skin reaction on contact with HMDS could "predict a potential for a fatal anaphylactic reaction." This is a very frightening statement and in the light of it I see no alternative other than to recommend that the most stringent precautions be taken to avoid Mr. coming into contact with HMDS in any form.

I have sent Dr. Koone's letter and other relevant correspondence to your company physician Dr. R. A Honaker, for inclusion in Mr. medical records, and have told Dr. Koone that I have done so.

I have sent a copy of Dr. Koone's letter and attachments to Dr. W. C. Kuryla, PhD., for inclusion in the TSCA 8(c) file on this case.

I have discussed this case with Dr. B. Ballantyne and we will be recommending that toxicological tests be done to determine whether HMDS should be regarded as a sensitizing agent. This case is the first of its kind to the best of our knowledge, but in view of the severity of the reaction described it seems to warrant further investigation.

**Hilton C. Lewinsohn, MB BCh., FFOM., FACOEM., FCCP., DIH.
Associate Corporate Medical Director**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

William C. Kuryla, Ph.D.
Associate Director, Product Safety
Union Carbide Corporation
39 Old Ridgebury Road
Danbury, Connecticut 06817-0001

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

FEB 27 1995

EPA acknowledges the receipt of information submitted by your organization under Section 8(e) of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA §8(e) Document Control Number (e.g., 8EHQ-00-0000) assigned by EPA to your submission(s). Please cite the assigned 8(e) number when submitting follow-up or supplemental information and refer to the reverse side of this page for "EPA Information Requests".

All TSCA 8(e) submissions are placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA §8(e) policy statement (43 FR 11110, March 16, 1978). Confidential submissions received pursuant to the TSCA §8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims. This information is required and should be submitted if not done so previously. To substantiate claims, submit responses to the questions in the enclosure "Support Information for Confidentiality Claims". This same enclosure is used to support confidentiality claims for non-CAP submissions.

Please address any further correspondence with the Agency related to this TSCA 8(e) submission to:

Document Processing Center (7407)
Attn: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

EPA looks forward to continued cooperation with your organization in its ongoing efforts to evaluate and manage potential risks posed by chemicals to health and the environment.

Sincerely,

Terry R. O'Bryan
Terry R. O'Bryan
Risk Analysis Branch

Enclosure

12163A



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

Triage of 8(e) Submissions

Date sent to triage: MAR 08 1995

NON-CAP

CAP

Submission number: 12163A

TSCA Inventory:

Y

N

D

Study type (circle appropriate):

Group 1 - Dick Clements (1 copy total)

ECO

AQUATO

Group 2 - Ernie Falke (1 copy total)

ATOX

.SBTOX

SEN

w/NEUR

Group 3 - Elizabeth Margosches (1 copy each)

STOX

CTOX

EPI

RTOX

GTOX

STOX/ONCO

CTOX/ONCO

IMMUNO

CYTO

NEUR

Other (~~FATE~~ ~~EXP~~ ~~BY~~ MET, etc.): _____

Notes:

THIS IS THE ORIGINAL 8(e) SUBMISSION; PLEASE REFILE AFTER TRIAGE DATABASE ENTRY

For Contractor Use Only

entire document: 0 1 2 pages 12 pages 1

Notes:

Contractor reviewer :

LPS

Date:

1/25/95

CECATS TRIAGE TRACKING DEASE ENTRY FORM

CECATS DATA: Submission # SEHO 1092-12163 seq. A

TYPE: INT. SUPP FLMT

SUBMITTER NAME: Union Carbide

Superstition

INFORMATION REQUESTED - FLWT DATE:
 0001 NO INFO REQUESTED
 0002 INFO REQUESTED (TECH)
 0003 INFO REQUESTED (VOL. ACTIONS)
 0004 INFO REQUESTED (REPORTING NATIONALS)

DISPOSITION:
 0005 REFER TO CHEMICAL SCREENING
 0006 CAP NOTICE

SUB. DATE: 10/08/92 10/14/92 CBRAD DATE: 12/01/94

CHEMICAL NAME: 999-97-3

VOLUNTARY ACTIONS:
 0007 NO ACTION REQUIRED
 0008 STUDIES PLANNED IN WAY
 0009 INTERACTION WITH MATERIALS
 0010 LABELS/CHANGES
 0011 PROCESS/ANALYSIS CHANGES
 0012 APPAUSE DISCONTINUED
 0013 PRODUCTION DISCONTINUED
 0014 CONFIDENTIAL

INFORMATION TYPE	P.F.C.	INFORMATION TYPE	P.F.C.	INFORMATION TYPE	P.F.C.
0201 ONCO (HUMAN)	01 02 04	0206 HUMAN EXPOS (PROD CONTAM)	01 02 04	0241 IMMUNO (ANIMAL)	01 02 04
0202 ONCO (ANIMAL)	01 02 04	0207 HUMAN EXPOS (ACCIDENTAL)	01 02 04	0242 IMMUNO (HUMAN)	01 02 04
0203 CELL TRANS (IN VITRO)	01 02 04	0208 HUMAN EXPOS (MONITORING)	01 02 04	0243 CHEMOPHYTOSIS	01 02 04
0204 MUTA (IN VITRO)	01 02 04	0209 BIOLOGICAL TOX	01 02 04	0244 CLASTO (IN VITRO)	01 02 04
0205 MUTA (IN VIVO)	01 02 04	0210 ENV. OCCURRENCE	01 02 04	0245 CLASTO (ANIMAL)	01 02 04
0206 REPRO/TERATO (HUMAN)	01 02 04	0211 ENV. INC OF ENV CONTAM	01 02 04	0246 CLASTO (HUMAN)	01 02 04
0207 REPRO/TERATO (ANIMAL)	01 02 04	0212 REPRODUCTION DELAY	01 02 04	0247 DNA DAMAGE/REPAIR	01 02 04
0208 NEURO (HUMAN)	01 02 04	0213 REPRODUCTION ID	01 02 04	0248 PROLIFERATION	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0214 REPRODUCTION RATIONALE	01 02 04	0251 AIDS	01 02 04
0210 ACUTE TOX (HUMAN)	01 02 04	0215 CONTOUR	01 02 04	0252 OTHER	01 02 04
0211 CHR. TOX (HUMAN)	01 02 04	0216 ALLERG (HUMAN)	01 02 04		
0212 ACUTE TOX (ANIMAL)	01 02 04	0217 ALLERG (ANIMAL)	01 02 04		
0213 SUB ACUTE TOX (ANIMAL)	01 02 04	0218 METABOLISM (ANIMAL)	01 02 04		
0214 SUB CHRONIC TOX (ANIMAL)	01 02 04	0219 METABOLISM (HUMAN)	01 02 04		
0215 CHRONIC TOX (ANIMAL)	01 02 04				

USE: PRODUCTION

TOXICOLOGICAL CHANGES

CHANGES NEEDED

NON-CELL INVENTORY

YES

NO

IN HAND

CAS SR

NO (CONFIDENTIAL)

LEFTS

1-250013

8E Number and Chemical Name	Rank	Reason or Brief Description
<p>-12163 Hexamethyldisilazane, CAS 999-97-3</p>	<p>High</p>	<p>1991 case report of a chemical worker who apparently developed sensitivity to the chemical with persistent head aches and nose bleeds as well as redness, swelling and welts. The compound is acknowledged in one letter to have irritant properties, but that sensitization development is not noted on the MSDS. The dermal response of the individual was interpreted by the referral physician as a predictor for a fatal anaphylactic reaction.</p>